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The “Inventory of Father Involvement–Short Form” Among Portuguese Fathers: Psychometric Properties and Contribution to Father Involvement Measurement

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The aim of this study was to analyze the psychometric properties of the Portuguese version of the Inventory of Father Involvement–Short Form (IFI-SF) with respect to its factor structure, reliability, and preliminary concurrent and discriminant validity (Study 1), and to confirm the factor structure in a different sample (Study 2). In Study 1, 380 men ($M = 42.2$, $SD = 6.8$) completed the IFI-SF translated version, and a subgroup of 92 men also completed the Portuguese versions of the Parenting Stress Index–Short Form, the Parenting Styles and Dimensions Questionnaire–Short Form, and the Paternal Involvement Scale. In Study 2, 220 men ($M = 43.1$, $SD = 6.1$) completed the IFI-SF translated version. The results of confirmatory factor analyses (Study 1) found that the Portuguese IFI-SF had a bifactor structure, dissimilar to that of the original version. More specifically, a model depicting a general factor and 9 first-order factors was confirmed, with omega hierarchical coefficients indicating that only an IFI-SF global score should be calculated/interpreted. This structure was confirmed in Study 2. Cronbach’s alpha reliabilities in Study 1 and 2 were .93 and .95 for the global scale, respectively. Moreover, there was preliminary evidence of the scale’s concurrent and discriminant validity. These results indicate that the measure is suitable for use in the Portuguese context with an interpretable global score, and may be a useful tool for research regarding the positive aspects of men’s parental involvement, as such information may also be relevant in cross-cultural studies.

Keywords: father involvement, fathering, psychometric properties, parenting measures, IFI-SF

Though the father is no longer the “forgotten parent” (e.g., Cath, Gurwitt, & Ross, 1982), men’s identities within their families seem generally less certain than ever before. Thus, researchers today are discussing and questioning, to an unprecedented extent, the roles men play in families (Day & Lamb, 2004; Pleck, 2010a). Despite extensive research on this issue, “the scholarship on fathering remains inconsistent, disjointed, and insular—that is, not integrated across disciplines” (Fagan, Day, Lamb, & Cabrera, 2014, p. 391). The same limitations are found in the measurement of father involvement (Fagan et al., 2014) to such an extent that not only are standardized, reliable, and conceptually driven measures scarce, but the comparison of the results of fathering studies among

cultures is also strongly limited (Seward & Stanley-Stevens, 2014).

This article aims to contribute toward filling in the current literature gap on father involvement measurement by providing evidence in support of the validity of the Portuguese version of the Inventory of Father Involvement–Short Form (IFI-SF; Hawkins et al., 2002) and takes into account the growing interest in father involvement within the Portuguese context and the future possibilities of cross-cultural research. It also considers Fagan et al.’s (2014) encouragement to reassess how fathering is conceptualized and measured in order to contribute to the operationalization of some general consensuses about this construct and the importance of conceptually driven measures.

Contemporary Understanding of Father Involvement

The role of the father has undergone important social transformations because of technological, economic, and ideological issues, which have prompted fathers and families to change progressively from the traditional uninvolved role of the father to a contemporary involved parent (Parke, 1996; Tamis-LeMonda & Cabrera, 2002). Hence, involved fathering is considered to be a potentially extremely important (though not essential) protective factor in child/adolescent development (see Pleck, 2010a).

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Lamb, Pleck, Charnov, and Levine's (1985, 1987) concept of paternal involvement is the most widely accepted parenting concept by researchers of fatherhood. The authors proposed that paternal involvement is composed of three dimensions: (a) engagement (direct interaction with the child, such as in the form of caregiving, play, or other activities); (b) accessibility (availability to the child); and (c) responsibility (making sure that the child is taken care of, which is distinct from providing care, as well as arranging for resources for the child).

This conceptualization has had a strong impact on father involvement research over recent decades and the operationalization of the engagement dimension (as time that fathers spend with children usually in direct interaction) has tended to dominate the assessment of father involvement, as well as the research on fathering (Allen & Daly, 2007). Fortunately, as more researchers became interested in the father involvement concept, its operationalization and underlying framing began to shift (Pleck, 2012) from a dominant perspective that valued quantity to one that also values quality (e.g., Fagan et al., 2014). Currently, most researchers use measures that assess positive engagement; that is, engagement evaluated as the frequency of specific types of interactive activities that promote development, such as play and reading, often combined with dimensions such as warmth and sensitivity (Pleck, 1997) and control (Pleck, 2010b). This kind of operationalization has led to a revised conceptualization of paternal involvement (see Pleck, 2010b) that includes three primary components: (a) positive engagement activities, (b) warmth and responsiveness, and (c) control.

On the other hand, researchers have increasingly placed fathers in the context of family systems and subsystems and focused more closely on the influence of the broader social context (Lamb, 2010), understanding the father's role in the way the parenting field views all other social influences on development (Pleck, 2010a).

Although father involvement is related both to positive child and adult development outcomes (e.g., Flouri, 2005; Flouri & Buchanan, 2003; Palkovitz, 2002) and to individual and family well-being (e.g., Coates & Phares, 2014; Knoester, Petts, & Eggebeen, 2007), there are multiple factors that influence parental involvement, including the father's social and cultural contexts (Schmitz, 2005). Accordingly, there is increasing awareness of the need to delineate the importance, diverse roles, and practices of fathers in different cultural communities (Roopnarine, 2015). Within this scope, in Europe and North America contrasting realities of fathering may be found. More specifically in relation to Portugal, the country is distinguished by its policies on fathers and childcare, whereas few such policy frameworks exist in the United States (Roopnarine, 2015). In Portugal, there is more of a consensus that men should share childcare; however, while women are still mainly responsible for childcare-related tasks, fathers are characterized by a range of participation levels, from engaged fathering to that of helper (Roopnarine, 2015).

In the same vein, this study is useful in the Portuguese context for examining issues related to father involvement for a number of reasons. First, as referred to earlier, there is a traditional background of gender roles (male provider–female caregiver) that has shifted dramatically over the last decades. Second, in contrast to a still-strong breadwinner model in other southern European countries, public policies in Portugal have promoted gender equality in

employment and in the care of children (Wall, 2015), thus facilitating father involvement. For example, with the new policy measures, fathers' use of both paternity leave and parental leave has increased steadily. In 2013, around 65% of fathers entitled to paternity leave took at least two weeks, and around 26% shared with the mother the 5- to 6-month initial parental leave period, staying home to care for their child at least 1 month after the mother had returned to work (Wall, 2014). These figures have increased considerably since 2005 when less than 1% of fathers shared parental leave (Wall, 2015).

It is imperative to continue to examine how the cultural ideal of the father's involvement matches the reality (ies) of the father's involvement. Unfortunately, despite the accomplishment of a more comprehensive and coherent theoretical upgrade, advances in the measurement of father involvement continue to lag behind social changes (Finley & Schwartz, 2004) and advances in the conceptualization of fathering.

IFI Contributions and Potential for the Development of Father Involvement Measurement

More than a decade ago, several researchers acknowledged that in order for research on fathering to progress, the measurement of father involvement needed to be improved (e.g., Hawkins & Palkovitz, 1999; Lamb, 1999; Marsiglio, Amato, Day, & Lamb, 2000). At the time, Hawkins and Palkovitz (1999) claimed that all the current measures and studies only emphasized father involvement categories that were temporal and, for the most part, observable. Some years later, Hawkins et al. (2002), based on earlier conceptual works, developed the IFI, an instrument that regards father involvement to include affective, cognitive, and behavioral dimensions and components related to direct and indirect forms of engagement (Hawkins & Palkovitz, 1999; Lamb, 1999; Palkovitz, 1997). This approach is consistent with what has been suggested in the most recent conceptualizations of father involvement. The IFI has gone one step further by broadening and enriching the operationalization of the father involvement concept and by overcoming one important methodological critique of previous measures, namely the inclusion of a quality perspective with regard to the assessment of father involvement. Another contribution is related to informants. Before the development of the IFI, information about fathers' involvement was mostly gathered from mothers and/or children (see Ünlü, 2010). Hawkins et al. (2002) provided the opportunity to invite fathers to think and report on their own involvement and, thus, contributed to promoting the inclusion of their perspective in father involvement studies. Nevertheless, studies examining fathering in practice are still more often concerned with the implications of fathering behavior on children, families, and society than with the way fathers see themselves and evaluate their role (Taylor, 2012).

Although there has been an inclusion of different informants when the focus is to measure father involvement, such as the adult children (e.g., Dick, 2004; Finley & Schwartz, 2004; Lima, Serôdio, & Cruz, 2008), the fathers themselves (e.g., Simões, Leal, & Maroco, 2010a), or both the fathers and the mothers (e.g., Coley & Morris, 2002; Hernandez & Coley, 2007; Radin, 1982), most of the self-report measures used still focus explicitly on the amount of father involvement and only implicitly on the quality of the involvement. This is the case of the Paternal Involvement Scale

(EEP; Escala de Envolvimento Paterno; Simões et al., 2010a, 2010b), a recent measure developed for the Portuguese context that has frequently been used. Although it provides a multidimensional father involvement measurement, its focus is still on quantity and only indirectly is there a focus on quality.

We consider that the IFI, as a self-report measure of father involvement that requires the fathers to assess the quality of their parenting (Hawkins et al., 2002), may have additional advantages because it makes measuring the quality of father involvement an explicit aspect that can then be framed by the most recent theoretical developments in father involvement and parenting literature. Therefore, in addition to the continuity of the measure with Lamb et al.'s (1985, 1987) conceptualization of father involvement, the IFI dimensions assess and report on a positive perspective of father involvement (Pleck, 1997) and integrate concepts long established in parenting research, such as warmth and control (Pleck, 2010b). Thus, we argue that these aspects serve as specific dimensions of positive parental involvement.

The inventory enables researchers to explore linkages between aspects of the quality of father involvement and children's development and well-being, men's adult development and well-being, and family interactions and well-being (Hawkins et al., 2002). However, the inventory can also be used in settings other than research, such as educational and clinical situations, where fathers may benefit from an evaluation of their strengths and weaknesses as a father, because the instrument is designed to tap contents central to men's conceptualizations of what it means to be a father (Hawkins et al., 2002). Furthermore, it may be beneficial to evaluate baseline associations and changes resulting from preventive interventions that promote healthy relational skills (e.g., Rienks, Wadsworth, Markman, Einhorn, & Etter, 2011). Moreover, because the measure is consistent with the theoretical views that the specific positive father involvement dimensions fit into parental involvement in general, its use could be expanded to assess the parental involvement of mothers or other caregivers. In such a case, the father involvement field of research can inform parenting researchers of relevant dimensions that have not been systematically investigated with respect to mothers, such as the mother's degree of involvement with the child or her provision of material indirect care (Pleck, 2012).

The IFI pilot study by Hawkins et al. (2002) obtained support for both face and construct validity, and reliability for both the long and short forms. However, one must consider that the IFI pilot study would not align with current best practices of measure development (e.g., the IFI was initially developed through principal component analysis, instead of principal axis factoring; the subsequent confirmatory factor analysis [CFA] of the IFI was performed by testing a variety of confirmatory factor models on the same sample that was used for the exploratory factor analysis and best practices recommend the use of a separate sample for CFA; Wang, Watts, Anderson, & Little, 2013). Nevertheless, support for the reliability of the IFI has been noted (e.g., Rienks et al., 2011), considering a global father involvement factor (Cronbach's alpha coefficient = .95).

The IFI has been translated into several languages, namely, Chinese (Fong & Lam, 2007; Kwok, Ling, Leung, & Li, 2013), Spanish (Colombian and American Spanish speakers; Bermúdez-Jaimes, Ripoll-Nuñez, & Carrillo-Ávila, 2013; Glass & Owen, 2010), Korean (Kim, 2008; Park, 2010), Serbian (Mihic, 2010),

and Turkish (Ünlü, 2010), and it has been modified to suit other English-speaking populations, such as South African and British English speakers (DeWit, 2013; Flouri, 2004, 2007). These versions have been used in their original form to inform about the father's view concerning his performance as a father (e.g., Flouri, 2004, 2007; Fong & Lam, 2007; Kwok et al., 2013; Park, 2010), the mother's view regarding her performance as a mother (Flouri, 2004), as a measure for adolescents on father/mother/grandparent involvement (e.g., Bermúdez-Jaimes et al., 2013; Bermúdez-Jaimes, Ripoll-Nuñez, & Carrillo-Ávila, 2014; Carrillo-Ávila, Díaz-Gómez, Bermúdez-Jaimes, & Ripoll-Nuñez, 2014; DeWit, 2013), and to study father involvement through both fathers' self-reporting and mothers' reporting about their husbands' involvement (e.g., Kim, 2008). Ünlü (2010) used the measure with a modified response scale to assess the father's perspective regarding the frequency of positive involvement behaviors (for a more detailed description, see IFI-SF Models section). All IFI versions were derived from the 26-item IFI (IFI-SF), with the exception of the Colombian Spanish version that was translated from the 35-item IFI Long Form. Most of the researchers analyzed only the internal reliability of the measure without performing validity analyses (Flouri, 2004, 2007; Fong & Lam, 2007; Glass & Owen, 2010; Kim, 2008; Kwok et al., 2013; Mihic, 2010; Park, 2010). Accordingly, in these studies, there is evidence of good reliability (Cronbach's alpha coefficients ranged between .92 and .98) considering the global father involvement factor.

Thus, acknowledging the limitations of the previous studies on both the original and translated versions of the IFI-SF, we decided that the Portuguese version of the IFI should be examined with a thorough psychometric examination process, taking into account the need for greater scrutiny into the measure.

We consider that the understanding of the psychometric properties of a Portuguese version of the IFI is important to the field as it brings quality to the "main stage" and gives an opportunity to expand the development of appropriate, psychometrically sound scales of father involvement to the Portuguese context. To date, Portuguese researchers have not evaluated father involvement quality with these types of scales. Hence, where father involvement has been the focus of research, scholars have typically measured quantity of time and frequency of behaviors while failing to directly measure the quality component of father involvement as is the case with the EEP scale used in the Portuguese context. Furthermore, in terms of psychometric properties, even though the EEP authors argue that the measure has an acceptable validity and reliability in the initial validation study, they also acknowledge the importance of further studies to test the factor structure. Nevertheless, despite the use of the measure by other authors, in these subsequent studies validity and reliability was not the main target.

The main aim of this article is to provide support for the validity of the Portuguese version of the 26-item IFI (IFI-SF; Hawkins et al., 2002) in its original formulation (i.e., considering fathers' reports). Two studies were conducted with separate samples to examine the psychometric properties of the IFI-SF among Portuguese fathers from the general population. More specifically, in Study 1, the factor structure, reliability, concurrent and discriminant validities were considered, while in Study 2 factor structure and reliability with a different sample were assessed to provide

stronger validation for the solution achieved in Study 1 (Wang et al., 2013).

Study 1

Method

Participants. Three hundred eighty fathers aged between 25 and 59 years ($M = 42.2$; $SD = 6.8$) participated in the study. The sociodemographic data of the sample are presented in Table 1. All participants had at least one child and the modal number of children was two. Approximately 89% were either married or living in a common law partnership and approximately 95% were self-identified Caucasians. The majority of the participants had completed higher education (63.2%) and approximately 91% were employed.

Measures.

Inventory of Father Involvement—Short Form (IFI-SF). The IFI-SF (Hawkins et al., 2002) is a 26-item instrument (the IFI-Long form is composed of 35 items) with a 7-point Likert-type scale with responses ranging from “*excellent*” to “*very poor*.” The instrument assesses cognitive, affective, and direct and indirect behavioral components of involvement. As all items are phrased positively, higher scores represent higher ratings with respect to the quality of parenting over the last 12 months as perceived by the father. For each item, the participants may also choose the option “not applicable.” The overall score of the IFI-SF (26 items) is the result of the scores received in each of the following subscales: Discipline and Teaching Responsibility (3 items, e.g., *encouraging your children to do their chores*); School Encouragement (3 items,

e.g., *encouraging your children to do their homework*); Mother Support (3 items, e.g., *letting your children know that their mother is an important and special person*); Providing (2 items, e.g., *providing your children’s basic needs - food, clothing, shelter, and health care*); Time and Talking Together (3 items, e.g., *spending time talking with your children when they want to talk about something*); Praise and Affection (3 items, e.g., *praising your children for something they have done well*); Developing Talents and Future Concerns (3 items, e.g., *encouraging your children to develop their talents—music, athletics, art, etc.*); Reading and Homework Support (3 items, e.g., *encouraging your children to read*); and Attentiveness (3 items, e.g., *being involved in the daily or regular routine of taking care of your children’s basic needs or activities—feeding them, driving them places, etc.*). The original version of the IFI-SF, administered to a North American sample of fathers ($N = 723$), demonstrated an adequate level of internal consistency with Cronbach’s alpha coefficients of .94 for the total score and coefficients ranging from .69 to .87 for the subscales (Hawkins et al., 2002).

Paternal Involvement Scale (EEP; Escala de Envolvimento Paterno). The EEP (Simões et al., 2010a, 2010b) is a 19-item, 5-point Likert-type measure of behavior and presence/absence frequency that examines father involvement as a multidimensional construct. The scale allows for a total score by summing the scores for all items as well as allowing for the analysis of four subscales of paternal involvement: Care (6 items, e.g., *How frequently are the following tasks done?/Bathing and dressing the child*), Availability (6 items, e.g., *How frequently are you:/Away from home days at a time*), Presence (4 items, e.g., *How frequently are*

Table 1
Sample Sociodemographic Characteristics

Variable	Study 1					Study 2				
	Range	<i>n</i>	%	<i>M</i>	<i>SD</i>	Range	<i>n</i>	%	<i>M</i>	<i>SD</i>
Age	25–59	380	100	42.16	6.76	25–65	214	97.3	43.13	6.07
Number of children	1–5	380	100	1.93	.81	1–4	217	98.6	1.8	.72
1		111	29.2				76	34.5		
2		208	54.7				114	51.8		
3		45	11.8				21	9.5		
4–5		16	4.2				6	2.7		
Marital status		379	99.7				219	99.5		
Married/cohabiting		337	88.7				201	91.4		
Divorced/separated		29	7.6				14	6.4		
Widower		1	.3				2	.9		
Single		12	3.2				2	.9		
Ethnic group		374	98.4							
Caucasian		362	95.3							
African		2	.5							
Multiracial		10	2.6							
Level of education		378	99.5				218	99		
4 years of education		4	1.1				14	6.4		
6 years of education		18	4.7				32	14.5		
9 years of education		27	7.1				55	25		
12 years of education		89	23.4				61	21.8		
Higher education		240	63.2				56	25.5		

Note. In Study 1, one participant did not state his marital status; six participants did not state their ethnic group; two participants did not state their level of education. In Study 2, six participants did not state their age; three participants did not state the number of children; one participant did not state his marital status; two participants did not state their level of education.

you: Present during the week to have breakfast with your child and family) and Discipline (3 items, e.g., *How frequently are the following tasks done?/Setting limits for the child's behavior*). Higher scores indicate a higher perception of involvement. This measure was developed in the Portuguese context although its construction was based both on the literature and on the Paternal Involvement in Child Care Index by Radin (1982) (Simões et al., 2010a). The reported internal consistency (Cronbach's alpha coefficients) results of the EEP development study are .85 for the total score, .75 for the Care subscale, .86 for the Availability subscale and .65 for both the Presence and the Discipline subscales. Since its development, the measure has been used very frequently in studies with different samples of Portuguese fathers and the appropriateness of the measure has been stated (e.g., Arrais & Santos, 2013; Arsénio & Santos, 2013; Lopes & Leal, 2012; Rosa, 2013). These studies did not have validity and reliability as their main focus, although the results showed the ability of the EEP to discriminate different groups of fathers (e.g., considering sociodemographic variables such as age and education; Arrais & Santos, 2013). In the current study, Cronbach's alpha coefficient was .78 for the total scale. Moreover, Cronbach's alpha coefficients of the subscales indicated acceptable to good reliability for Care (.80), Availability (.88), and Presence (.68). However, Cronbach's alpha coefficient for the Discipline subscale was .47.

Parenting Stress Index–Short Form (PSI-SF). The PSI-SF (Abidin, 1995; Portuguese version: Santos, 2008, 2011) is a self-report measure of parenting stress that comprises 36 items with a 5-point Likert-type scale. The underlying assumption is that both child and parent characteristics contribute to stress in parenting. The measure includes three subscales, each composed by 12 items: Parental Distress (PD), Parent-Child Dysfunctional Interaction (PDI), and Difficult Child (DC). The scale allows for a total score by summing the scores for all items. In the present study, we use the total score of parenting stress, which indicates the level of stress the parent is experiencing in his or her role as a parent. The reliability and validity of the PSI-SF have been supported in several studies in different cultures and ethnic groups (e.g., Abidin, 1995; Barroso, Hungerford, Garcia, Graziano, & Bagner, 2015; Díaz-Herrero, López-Pina, Pérez-Lopez, Brito de La Nuez, & Martínez-Fuentes, 2011). For instance, in these previous studies, Cronbach's alpha coefficients ranged from .90 and .91 (Barroso et al., 2015; Díaz-Herrero et al., 2011). In terms of validity, for example, the scores of PSI-SF (total and subscales) were correlated with the scores for depressive symptomatology, $r = .53$, $p < .001$, parents' beliefs regarding their ability to influence their child's behavior, $r = .44$, $p < .001$ —higher scores indicate that parents believe they have less control over their child's behavior—and with child scores for socioemotional and behavioral child problems, namely Externalizing, $r = .50$, $p < .01$, Internalizing, $r = .38$, $p < .01$, and Dysregulation, $r = .44$, $p < .01$ (Barroso et al., 2015). Finally, the scores on the DC subscale were correlated with infants' scores (Barroso et al., 2015). Cronbach's alpha values for the Portuguese version of the PSI-SF total score are as follows: .88 for parents of younger children (under 5 years) and .89 for parents of older children (between the ages of 5 and 10) (Santos, 2008, 2011). Cron-

bach's alpha coefficient for the PSI-SF total score in the present study sample was .93.

Parenting Styles and Dimensions Questionnaire–Short Form (PSDQ-SF). The PSDQ-SF (Robinson, Mandleco, Olsen & Hart, 2001; Portuguese version: Miguel, Valentim, & Carugati, 2009) is a self-report measure designed to assess the parenting styles of parents of school-age children, with good psychometric properties (see Locke & Prinz, 2002). It comprises 32 items with a 5-point Likert-type scale. The measure includes first and second-order factors representing authoritative, authoritarian and permissive parenting styles and corresponding dimensions. The validity and reliability of the PSDQ-SF have been demonstrated, although problems have been identified with the internal consistency among studies using the Permissive Parenting Style scale (Olivari, Tagliabue, & Confalonieri, 2013). In the present study, only the Authoritarian Parenting Style scale (12 items) was used. This scale assesses dimensions of parental behaviors related to punishment, physical coercion, and verbal hostility. Significant correlations have been found between this scale and parenting rearing patterns of rejection, $r = .74$, $p < .01$, emotional support, $r = -.31$, $p < .01$ and of control attempts, $r = .22$, $p < .01$ (Pedro, Carapito, & Ribeiro, 2015). Support for its reliability has been provided in previous studies (e.g., Fu et al., 2013; Kern & Jonyniene, 2012; Önder & Gülay, 2009) with Cronbach's alpha coefficients ranging from .71 to .88. Cronbach's alpha value for the Portuguese version of the Authoritarian parenting style scale is .80 (Miguel et al., 2009). Cronbach's alpha coefficient for this scale in the present study was .83.

Sociodemographic information. The participants self-reported demographic information, namely age, marital status, number of children, highest educational attainment, and employment status. In addition, the participants answered a specific question related to their self-evaluation of their performance as a father using a scale ranging from 0 to 20 where higher scores indicate better performance as a father.

IFI-SF translation. The Portuguese version of the IFI-SF was developed using a forward–backward translation process from and to both English and Portuguese, thus following the international guidelines for test translation and adaptation (e.g., Hambleton, 2001; Muñiz, Elosua, Hambleton, & the International Test Commission, 2013). The translation process was carefully conducted to avoid misinterpretation and technical verbal errors. A three-step procedure was used to adapt the measure to the Portuguese language. First, the IFI-SF was independently translated into Portuguese by the first two authors and a highly qualified person who had lived and studied abroad in an English-speaking country. The different versions were then compared, and discrepancies were reconciled through discussion among the translators. Then, the updated version was given to an additional translator (who was not familiar with the original English version of the IFI-SF) who then translated the Portuguese version back to English (i.e., backward-forward translation). Afterward, the back-translated English version of the IFI-SF was verified by Alan Hawkins, one of the developers of the instrument in the United States, who checked for semantic equivalence. This process produced a Portuguese version of the IFI-SF that is close to the original. In the Portuguese version, we added two sentences to the introduction. These sentences explain that being a father is challenging and thus, it is normal for fathers to perform better in some areas than in others. This addition

was suggested by Hawkins et al. (2002) to allow fathers to rate each involvement item independently of the other items and thus create more variation in their response patterns. Finally, a pretest study was conducted with a small number of fathers to verify item and instruction comprehensibility. No changes were introduced, and the final version of the measure was used in the present study.

IFI-SF models. The factorial structure of the IFI-SF was determined using CFA in its initial validity study as derived from the IFI - Long Form (IFI-LF; Hawkins et al., 2002). A posterior validity study of a Turkish version of the IFI-SF (Ünlü, 2010) was developed with biological-resident fathers ($N = 528$) who had at least one child aged between 0 and 8 years. In this case, the item response scale was changed to a 5-point Likert-type (1 = *never* to 5 = *every time*). In the Turkish study, CFA was not used. However, a six-factor solution was extracted conducting a principal component analysis with varimax rotation. The six factors explained 52.8% of the total variance. Twenty-four of the 26 items were retained; one item from the original IFI-SF Time and Talking Together subscale and one item from the Praise and Affection subscale were dropped. Though this factor-solution had an important overlap with the original, it provided poorer reliability results as Cronbach's alpha coefficients ranged from .46 to .82 for the subscales and was .86 for the global scale (Ünlü, 2010). In another study that explored the factor structure of the original IFI-SF, Rienks et al. (2011) found a one factor solution with an exploratory factor analysis ($N = 112$). Thus, other than the initial study of Hawkins et al. (2002), we are not aware of any IFI-SF study providing support for its validity that has used CFA.

Considering the aims of the present study, we determined that the best initial approach would be to test the factorial models using CFA. Although exploratory factor analysis is used mainly to describe, summarize or reduce data and make them more understandable, in the present study, CFA was deemed to be more appropriate as it provides the researcher the opportunity, after identifying an a priori model, to match the theoretical and observed factor structures for given data and to verify the goodness of fit of the predetermined factor model. We specifically considered the original factor structure found by Hawkins et al. (2002). We did not use Ünlü's (2010) sixth-factor solution in our analysis since it has a significant overlap with Hawkins et al.'s (2002) original multidimensional model and presents poorer reliability values.

Procedures. This study is part of a broader research focused on father involvement. The participants were recruited online and from a community-based sample and were asked to complete a research protocol. The recruitment was nonprobabilistic, and the participants were informed that the study was focused on paternal involvement, explaining that the data would help validate an instrument to evaluate different dimensions of paternal involvement quality among fathers. The research protocol was completed online or via traditional paper-and-pencil methods. Individuals interested in participating provided either online or written informed consent. The study was performed in accordance with the American Psychological Association's [APA] ethical principles (APA, 2002, 2010). All participants were volunteers, and no compensation was offered. A subgroup of participants ($n = 92$) who answered via paper-and-pencil were asked to complete all the measures, thus allowing for concurrent and discriminant validity analyses.

Statistical analysis. Statistical analysis was performed using IBM SPSS Statistics software (v.22, SPSS Inc., Chicago, IL), lavaan (Rosseel, 2012) and semTools (semTools Contributors, 2015), respectively, which are R software packages (R Core Team, 2015).

To examine construct validity and determine which solution best fit the data, four confirmatory factor analysis models were tested using the 26 items of the IFI-SF. We began by examining a unidimensional model with a single factor representing father involvement (Model A), followed by a nine first-order factor oblique model (Model B), a second-order factor structure with nine first-order oblique factors (representing the original structure of the IFI-SF) (Model C), and a bifactor orthogonal model with items loading simultaneously onto nine factors and a single general factor (Model D). We decided to test additional models because we considered it was critical to provide the most accurate measurement of father involvement considering the initial development of the IFI, which presented some problems as previously mentioned (see the IFI Contributions and Potential for the Development of Father Involvement Measurement section).

With a bifactor structure, it is possible to better analyze the importance of general scales and subscales to measure psychological constructs, which means that it will be possible to evaluate the common variance between 26 IFI-SF items that is explained by a general father involvement factor, and its nine specific factors. To examine the reliability of the bifactor structure, omega hierarchical coefficient (ω_H ; Reise, Moore, & Haviland, 2010) and the omega subscale (ω_S) were applied. The added value of the omega hierarchical, when compared with Cronbach's alpha, is its ability to provide reliability estimates for a latent factor, when all other factors' variance (both general and specific) is removed (Reise, Scheines, Widaman, & Haviland, 2013), providing a better estimate for a general unidimensional structure; while the omega subscale provides reliable estimates for each factor, with other specific and general factors' variance being removed (Reise, 2012). This means that if the bifactor model is identified as the solution with better fit to the data, omega coefficients will indicate which scales have sufficient reliability to be interpreted, or if it would be better to maintain a global composite score. In both cases, omega coefficients should exceed a minimum of .50 (Reise et al., 2013).

Data were screened for normality, outliers and missing values across the IFI-SF items. The Robust maximum likelihood (MLR) estimator was used to correct for non-normality and multiple imputation with scale score means being applied to deal with the small amount of missing data (less than 10%). In addition to the Santorra-Bentler (S-B) χ^2 tests, several fit indices were used to evaluate the models' suitability, namely the comparative fit index (CFI), the Tucker-Lewis index (TLI), the standardized root mean square residual (SRMR), the root mean square error of approximation (RMSEA) with a 90% confidence interval and the Bayesian information criteria (BIC; Raftery, 1995; Schwarz, 1978). The CFI and TLI values close to .90 or greater (Bentler, 1990; Bentler & Dudgeon, 1996) and the SRMR and RMSEA values below .08 (Arbuckle, 2009; Browne & Cudeck, 1993; Hu & Bentler, 1999) indicate an acceptable model fit. As for the BIC, the model with a smaller BIC value is preferable, because it is more parsimonious (Byrne, 2010); BIC differences between models greater than 10 are illustrative of a better model fit (Kass & Raftery, 1995). For the

bifactor model, in addition to omega coefficients, the percentage of explained common variance (ECV) was computed, indicating how much the general father involvement factor and its nine specific factors contribute to common item variance.

With respect to reliability, Cronbach's alpha coefficients were used to assess the internal consistency of the final factor structure of the best fit model of the Portuguese IFI-SF. Values between .60 and .70 indicate acceptable reliability, whereas values of .70 or higher are regarded as denoting a good level of reliability (Nunnally & Bernstein, 1994).

To examine concurrent validity, Pearson correlations were performed between the IFI-SF total score, the EEP (Simões et al., 2010a, 2010b) Care and Presence subscales and the total score, and the Parenting Stress Index–Short Form (PSI-SF; Abidin, 1995) total score. The EEP Availability subscale was excluded from the data analysis since it taps the fathers' periods of absence in everyday life while our aim, in order to examine concurrent validity, was to test the subscales that tap behaviors and attitudes related to the presence and positive interaction of the father. We excluded the EEP Discipline subscale from the data analysis because of its poor reliability in the study sample. In addition, the IFI-SF total score was correlated with the scores for a specific question that was included in the protocol answered by participants, "In general, on a scale ranging from 0 to 20, how do you evaluate your performance as a father?"

We expected to find a significant positive correlation with a moderate to large effect size between the IFI-SF total score and the EEP total score as both scales measure positive father involvement activities. The same applies to the Care and Presence EEP subscales. Finally, we expected a significant negative correlation between the IFI-SF total score and the PSI-SF total score (the higher the fathers' score on involvement quality, the lower the levels of stress experienced in the role as a parent) with a moderate effect size. Research has shown that although involvement also entails dealing with the inconveniences and challenges associated with actively caring for a child, thus causing some degree of parenting stress, higher perception of some quality features of the involvement (which includes more positive behaviors and attitudes that facilitate the parent–child relationship) is expected to be associated with lower parenting stress levels (e.g., Crnic, Gaze, & Hoffman, 2005; Whiteside-Mansell et al., 2007). By the same

token, lower perception of involvement quality (which includes fewer positive behaviors and attitudes that support the parent–child relationship) is expected to be associated with higher parenting stress. With regard to the correlation between the IFI-SF total score and the scores obtained with the aforementioned specific question included in the protocol, a significant positive correlation with a moderate to large effect size was anticipated as both dimensions were expected to tap the performance of the father.

Finally, discriminant validity was analyzed by correlating the IFI-SF total score with the PSDQ-SF (Robinson et al., 2001), more specifically, with the Authoritarian Parenting Style scale. We expected to find a nonsignificant correlation between the IFI-SF total score and the PSDQ-SF Authoritarian Parenting Style scale that taps the frequency of parental behaviors related to punishment, physical coercion, and verbal hostility which are not expected to be part of positive father involvement. Research has shown that parents who adopt the authoritarian parental style tend to frequently use the previously mentioned behaviors when children's behaviors are perceived as nonacceptable and divergent from a certain defined standard (e.g., Miguel et al., 2009). Thus, if a child fits the defined standards, positive involvement may be expected, despite the greater likelihood of parents selecting authoritarian behaviors. In this sense, although at first glance we might be orientated toward an inverse correlation hypothesis; that is, father involvement quality inversely related to the authoritarian parenting style, we expected instead these parent behaviors to be distinguished from positive father involvement.

Results

Factor structure. Goodness-of-fit indices for the four models are illustrated in Table 2. The model showing the best fit was Model D, representing the bifactor structure ($\chi^2 = 601.175$, $p = .000$, $\chi^2/df = 276$, CFI = .91, TLI = .90; SRMR = .05, RMSEA = .06, 90% CI = [.050, .061]). Model A, representing the unidimensional structure, did not provide adequate fit indices, particularly according to CFI and TLI. Model B, consisting of nine first order oblique factors, fit the data better when compared with Model A, but fit indices were still far from advisable cut-off values. Finally, Model C, representing the IFI-SF theoretical structure, had a similar fit to Model B.

Table 2
Confirmatory Factor Analysis Models Fit Indices (Study 1, $n = 380$; Study 2, $n = 220$)

Models	S-B χ^2	df	BIC	CFI	TLI	RMSEA	SRMR	df, S-B _{Diff} χ^2	Model comparison
Study 1									
Model A	1,191.627	299	23,211.287	.76	.74	.09	.07	—	
Model B	641.867	263	22,727.548	.90	.88	.06	.06	36,477.47***	Model A
Model C	693.024	290	22,639.192	.89	.88	.06	.06	27,52.764***	Model B
Model D	601.175	276	22,604.274	.91	.90	.06	.05	14,82.867***	Model C
Study 2									
Model A	680.575	299	13,292.706	.84	.83	.08	.06	—	
Model B	458.715	263	13,134.288	.92	.90	.06	.05	36,174.57***	Model A
Model C	500.245	290	13,063.565	.91	.90	.06	.05	27,42.727**	Model B
Model D	447.516	277	13,054.317	.93	.92	.05	.05	13,46.672***	Model C

Note. BIC = Bayesian information criteria; CFI = Comparative Fit Index; TLI = Tucker-Lewis Index. Model A (unidimensional structure), Model B (nine first-order oblique factors), Model C (one second-order factor with nine first order oblique factors), Model D (bifactor model).

* $p < .05$. *** $p < .000$.

Because of similar fit results between Model B and Model D, an additional scaled chi-square difference test was applied between these two structures, $\Delta S-B\chi^2(13) = 16.671$, $p = .2$, $\Delta BIC = 123.274$. Chi-square differences were not significant, however comparisons between BIC values showed that Model D had lower values by more than 10, which reinforced its selection as the structure that best represented the data. Standardized factor loadings for the bifactor solution as well as omega coefficients and ECV are illustrated in Table 3.

These results suggest that despite the multidimensional structure of the IFI-SF, only the general factor of father involvement should be interpreted because of its high omega hierarchical coefficient ($\omega_H = .89$) and low reliability of the nine specific factors (ω_S from .09 to .45).

Reliability. The result of the internal consistency of the general composite, as estimated by Cronbach's alpha coefficient, is .93 for the total IFI-SF scale (26 items). The omega hierarchical coefficient is .89 as referred to previously.

Concurrent and discriminant validity. The correlation between total scores of IFI-SF and EEP was significant and positive, $r = .49$, $p < .001$. As for the EEP subscales, as expected, there was a positive significant correlation with the Care ($r = .57$, $p < .001$) and Presence ($r = .39$, $p < .001$) subscales. Furthermore, significant correlations were found be-

tween the IFI-SF total score and the PSI-SF total score ($r = -.30$, $p < .001$) and a specific question included in the protocol that asks for the self-evaluation of the performance as a father, $r = .38$, $p < .001$. These results provide evidence of the concurrent validity of the total score of the Portuguese version of the IFI-SF. On the other hand, the nonsignificant correlation of the IFI-SF with the PSDQ-SF Authoritarian Parenting Style scale, $r = .15$, $p = .169$ provided evidence of the discriminant validity of the total score of the Portuguese version of the IFI-SF.

Study 2

Method

Participants. Two hundred twenty fathers aged between 25 and 65 years ($M = 43.1$; $SD = 6.1$) participated in the study. The sociodemographic data of the sample are presented in Table 1. All participants had at least one child and the modal number of children was two. Approximately 91% were either married or living in a common law partnership. The majority of the participants were employed (90.5%). Around a quarter had completed

Table 3
Standardized Factor Loadings for the Bifactor Model Solution (Study 1, $n = 380$)

Items	General factor	PR	R&H	AT	D&T	SE	MS	T&T	P&A	DT&FC
it1	.40	.55								
it2	.49	.53								
it3	.52		.28							
it4	.52		.86							
it5	.55		.26							
it6	.45			.41						
it7	.55			.52						
it8	.65			.21						
it9	.61				.55					
it10	.57				.29					
it11	.67				.43					
it12	.70					.16 ^{NS}				
it13	.71					.34				
it14	.77					.28				
it15	.47						.69			
it16	.52						.66			
it17	.63						.33			
it18	.72							.07 ^{NS}		
it19	.67							.07 ^{NS}		
it20	.63							.78		
it21	.64								.68	
it22	.71								.46	
it23	.60								.28	
it24	.64									.26
it25	.49									.51
it26	.57									.43
ECV	63%	4%	6%	3%	4%	1%	7%	4%	5%	3%
ω_H	.89									
ω_S		.39	.38	.24	.24	.09	.45	.16	.30	.24

Note. PR = Providing; R&H = Reading and Homework; AT = Attentiveness; D&T = Discipline and Teaching Responsibility; SE = School Encouragement; MS = Mother Support; T&T = Time and Talking Together; P&A = Praise and Affection; DT&FC = Developing Talents and Future Concerns; ECV = Explained Common Variance; ω_H = ω Hierarchical; ω_S = ω Subscale; NS = nonsignificant at $p < .05$.

higher education (25.5%), and almost half had completed 12 (21.8%) or 9 years of schooling (25%).

Measures.

IFI-SF. Participants self-reported their perception of father involvement answering the IFI-SF Portuguese translation used in Study 1.

Sociodemographic information. Participants self-reported demographic information, namely age, marital status, number of children, academic qualification, and employment status.

Procedures. This study is also part of a broader research focusing on father involvement. The participants were selected from the general population and were asked to complete a research protocol. The recruitment was nonprobabilistic. The research protocol was completed via traditional paper-and-pencil method. Ethical principles followed the procedures described in Study 1. All participants were volunteers, and no compensation was offered.

Statistical analysis. The four confirmatory factor analysis models of Study 1 were tested in Study 2 with a different sample to verify whether the bifactor structure was still the model with the best fit to the data. Evaluation of models fit followed the procedures described in Study 1. Because of observed non-normality among the IFI-SF items, the MLR was used as a robust estimator. Multiple imputation of scale score means were also applied to less than 10% of missing data. All CFAS were performed using lavaan

(Rosseel, 2012) and semTools (semTools Contributors, 2015), respectively, which are R 3.2.1 packages (R Core Team, 2015).

Results

Factor structure. The Models' statistics are illustrated in Table 2 and findings are consistent with those obtained in Study 1. The bifactor structure (Model D) was the solution with the best fit ($\chi^2 = 447.516$, $p = .000$, $\chi^2/df = 277$, CFI = .93, TLI = .92; SRMR = .05, RMSEA = .05, 90% CI = [.045, .060]) with Santorra-Bentler (S-B) χ^2 differences, and fit indices supporting this model's superiority. Similarly, a supplementary scaled χ^2 difference test was performed as on Study 1 between Model B and Model D, because of their identical fit to the data. Differences were not statistically significant with comparisons between BIC values indicating that Model D had lower values, by more than 10, $\Delta S-B\chi^2(14) = 4.487$, $p = .9$, $\Delta BIC = 79.971$, suggesting, once again, that the bifactor structure presented a more adequate solution to describe the IFI-SF.

In addition, omega coefficients, and the ECV, indicate that the 26 items of the IFI-SF should be interpreted as a general factor ($\omega H = .93$), with low reliabilities and explained variance being associated with the nine factors (ωS from .08 to .32). Standardized factor loadings for the bifactor structure are shown in Table 4.

Table 4
Standardized Factor Loadings for the Bifactor Model Solution (Study 2, $n = 220$)

Items	General factor	PR	R&H	AT	D&T	SE	MS	T&T	P&A	DT&FC
it1	.56	.44								
it2	.55	.52								
it3	.62		.30							
it4	.66		.39							
it5	.65		.52							
it6	.61			.42						
it7	.66			.30						
it8	.75			.19 ^{NS}						
it9	.57				.29					
it10	.60				.34					
it11	.60				.67					
it12	.73					.07 ^{NS}				
it13	.80					.32 ^{NS}				
it14	.78					.31 ^{NS}				
it15	.64						.65			
it16	.65						.50			
it17	.76						.35			
it18	.76							-.01 ^{NS}		
it19	.77							.05 ^{NS}		
it20	.74							.67		
it21	.66								.35	
it22	.65								.76	
it23	.66								.08 ^{NS}	
it24	.76									.11
it25	.67									.22
it26	.59									.81
ECV	71%	2.8%	3.1%	1.8%	3.9%	1.2%	5%	2.8%	4.3%	4.4%
ωH	.93									
ωS		.29	.23	.14	.25	.08	.32	.10	.23	.23

Note. PR = Providing; R&H = Reading and Homework; AT = Attentiveness; D&T = Discipline and Teaching Responsibility; SE = School Encouragement; MS = Mother Support; T&T = Time and Talking Together; P&A = Praise and Affection; DT&FC = Developing Talents and Future Concerns; ECV = Explained Common Variance; $\omega H = \omega$ Hierarchical; $\omega S = \omega$ Subscale; NS = nonsignificant at $p < .05$.

Reliability. Cronbach's alpha coefficient is .95 for the total IFI-SF scale (26 items). The omega hierarchical coefficient is .93, as referred to previously.

General Discussion and Conclusion

The aim of this study was to provide evidence in support of the validity of the Portuguese version of the IFI-SF (Hawkins et al., 2002), a self-report measure that assesses nine distinct dimensions of positive aspects of father involvement. It is based on a broad conceptualization that includes cognitive, affective, and behavioral aspects of fathering and both direct and indirect involvement that fit the most recent theoretical upgrades, thus pointing to the inclusion of father involvement conceptualizations in parenting models.

It was not possible to replicate the second-order structure identified by Hawkins et al. (2002) with the results. Instead, a bifactor solution provided better fit to the data in both studies, with omega coefficients, and ECV, indicating that only a general father involvement factor should be interpreted. That is, although we also found a multidimensional structure, it was not possible to achieve sufficient reliability or account for an important percentage of explained variance for the subscales. In any case, the identified model solution provided evidence in support of concurrent and discriminant validity of the use of the IFI-SF total score as a measure of the general construct of father involvement quality.

Study 1 tested the original factor structure of the IFI-SF using CFA (Model C) and three additional solutions: a unidimensional structure (Model A), a nine-first order oblique factors (Model B) and a bifactor structure (Model D). This approach was adopted because of the emergence of some problems in the initial development of the IFI and, therefore, it was essential to test additional models to ensure the most accurate measurement of father involvement.

The examination of several fit indices indicated that the bifactor model with 26 items was the best supported solution. After finding the model with the best fit, it was necessary to check if the general factor and subscale factors independently accounted for sufficient reliable variance in their respective items to allow interpretation. We used the omega hierarchical coefficient (ω_H) to quantify this form of model-based reliability as the data in question were consistent with a bifactor structure. The value of .89 for the general IFI-SF factor suggested that calculation and interpretation of the IFI-SF total score are admissible. However, the values for the subscales were between .09 and .45, below the .50 cutoff. Hence, we concluded that only the general father involvement factor, the IFI-SF total score—an internally consistent measure of the general construct—should be calculated and interpreted.

Study 2 was conducted to provide stronger validation for the solution obtained in Study 1 (Wang et al., 2013). We tested the four fitting models of Study 1 in a new sample. These analyses provided support for a bifactor structure replicating the previously obtained results. Furthermore, the model-based reliability analysis using the omega hierarchical coefficient and omega subscale also suggested that only a general father involvement factor should be calculated and interpreted in future research.

With respect to reliability (assessed by means of the internal consistency coefficient - Cronbach's alpha), in Study 1 and Study 2 α coefficients were respectively .93 and .95 for the total score of the IFI-SF. These results are comparable to those obtained by

Hawkins et al. (2002); Flouri (2004); Fong and Lam (2007); Glass and Owen (2010); Park (2010), and Rienks et al. (2011), and were better than those obtained by other researchers such as Kim (2008) and Ünlü (2010).

Finally, the results provided preliminary evidence in support of concurrent validity and discriminant validity, considering Study 1 IFI-SF correlations both with the EEP and the PSI-SF for the former and with the PSDQ-SF for the latter. As expected, perceived quality of father involvement was positively and strongly associated with the perceived frequency of positive behaviors of father involvement and it was negatively and moderately associated with perceived parenting stress. Also as anticipated, there was a weak association (statistically nonsignificant) between perceived quality of father involvement and the authoritarian parenting style that includes verbal hostility, physical coercion and punishment parenting features. Some associations between these dimensions were expected as they both pertain to parenting attitudes/behaviors, nevertheless, in fact, they measure theoretically differentiated constructs, and it was anticipated that the Authoritarian Parenting Style would be distinguished from positive involvement.

Overall, the results achieved for the Portuguese IFI-SF structure, when compared with the original IFI-SF, challenges the current use of this instrument with nine subscales, limiting its use to a global score of father involvement quality. This reinforces the need to conduct thorough psychometric examinations of the different versions of the IFI. Future studies should take these results into account.

We consider these results with the Portuguese version of the IFI-SF to be grounded and strengthened by the thorough translation process that was undertaken when adapting the American IFI-SF to the Portuguese language and culture. The current study used multiple strategies to ensure the quality of the cross-cultural translation process. In addition to backward-forward translation, careful attention was paid to the semantic equivalence so as to minimize conceptual discrepancies between the way Portuguese speakers interpreted items and the original intentions of the authors.

The original goal of the IFI authors was to develop a reliable and valid self-report measure for fathers, that captured the breadth and richness of father involvement, that is, the presence of the father, not his absence (Hawkins et al., 2002). By asking fathers whether they felt they were doing a good job parenting their child/children, their focus was on the quality of their involvement and not on the time or frequency of positive involvement in activities/behaviors. This is an important contribution of the IFI authors that should be acknowledged when comparing this measure with other father involvement measures, and it is especially important for the Portuguese context where there are no measures with these characteristics. This contribution is still valid, even if only a total score can be interpreted.

Furthermore, we consider that the measure is compatible with a contemporary perspective on the positive aspects of father involvement, and that it might be broadened to parental involvement in general, which also facilitates the use of the instrument to allow for information triangulation (through different informants) or its use by mothers, which has already been conducted from time to time (see Kim, 2008, and Flouri, 2004). This aspect is maintained, even though only a global score of positive involvement can be interpreted.

As such, we consider the IFI an important instrument for gathering data on positive parental involvement, which may also be extended, with this study, to the Portuguese version given its acceptable psychometric properties when involvement is represented by an IFI-SF total score. Thus, the present study offers an important contribution to the research field by providing a valid assessment tool to evaluate the father involvement quality of Portuguese fathers, which may be useful in cross-cultural studies. The use of the instrument will enable an assessment, based on the fathers' perspectives, of the degree to which cultural ideals of father involvement match the reality(ies) of father involvement.

Limitations

Despite the contributions of this study, it does have some limitations. The samples were nonprobabilistic and a significant number of the participants were recruited online. Thus, providing support for the validity of the bifactor structure of the Portuguese IFI-SF using a nationally representative sample would be more desirable as would clinical samples. Moreover, the study of concurrent and discriminant validity was only preliminary in the present study and thus requires further development. In addition, the temporal stability of the measure was not investigated.

Future Research

Future research should address all the above issues and their impact on the confirmatory solution achieved in the two studies. The present contribution is a first step toward developing the full potential of the measure for parenting studies, and future research should also consider a study of Portuguese mothers using the instrument to evaluate and understand their parenting in accordance with the multidimensional contents included in the IFI-SF global score. This is a reasonable recommendation given that social change has extended to all family members, and mothers are socially allowed to have different levels of involvement and responsibilities in the rearing of their children.

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